

Z88 EPROM

April 1990

Vol.4 No.3

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Club Addresses

All articles for **Z88 EPROM** and any membership matters (except Software Library) should be sent to:

**Z88 USERS' CLUB
68 WELLINGTON STREET
LONG EATON
NOTTINGHAM
NG10 4NG**

All requests for software from the Club Software Library, (but not special offers), items for inclusion in the Library, and EPROMs for erasure should be sent to:

**THE SOFTWARE LIBRARY
Z88 USERS' CLUB
3/8 JENNER ROAD
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SURREY
GU1 3PL**

Please note that the **Library** address is the one to use when sending for a list of Library programs - this list is **not** available from the main Club address. Be sure to enclose 50p for the list.

The Club **CLI** Library is run by:

**MICHAEL HEY
18 WOODSIDE ROAD
SANDIACRE
NOTTINGHAM
NG10 5GP**

Any **CLI**'s for the Library, requests for **CLI**'s and the list of **CLI** programs should be sent to Michael Hey.

ALWAYS include your Membership Number with any correspondence. This is not just to be awkward - now the Club is large it can be very time-consuming searching the database for a member's number. Your number is printed on the address label of each issue of **Z88 EPROM**. Please be sure to enclose a stamped-addressed envelope with anything needing a reply.

Editorial

First this month, a couple of administrative points:

Regarding renewals, for those new members who have not yet had need to renew, you will receive a membership renewal form tucked inside your last copy of **Z88 EPROM**. You can help save time and effort by renewing using the form provided - it is coded such that we know which was the last issue you received, and renewing promptly using the form will ensure that you do not miss any copies of the magazine.

Also please bear in mind that the magazine is now published monthly, not bi-monthly as previously. Many people are taking two months to renew, again risking missing one or more issues.

Final admin point - when ordering spares or binders, please be sure to use the latest prices, which include VAT. These prices were printed in Vol 3 No 7 and Vol 4 No 2, and are supplied to all new members.

For those of you who have Thinkz, the outliner from Wordmongers, or indeed those of you who have been put off buying it by the reports of the program being rather fragile, your wait will soon be over. I understand that the program is being worked on at the moment, and very soon a new version will be available which fixes the file handling problem which causes Thinkz to fall over so regularly. I'll let you know as soon as the new version is ready.

Apologies to those of you who are awaiting replies from me to written queries. Since changing to monthly publication I simply have not had time to answer the flood of queries coming in from our many members, both new and old. Answering queries is very time-consuming, as I am sure you will appreciate, and to some degree I foresaw this problem, which is why we now have a network of Helpliners.

For those of you that need help, there are three routes: Initially, try the index sections at the end of each volume, to see if your problem area has been covered in a previous copy of **Z88 EPROM**. (If you don't have a complete set of back issues, perhaps now is an appropriate time to remedy this oversight!) The next source of help is our volunteer Helpliners, listed in every issue. Write to the one or more who are offering help on your problem subject. Finally, if all else fails, please write to me.

I can't guarantee a swift reply, but you should eventually receive some sort of reply, either personal or through the pages of this magazine.

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Big news this month is the release in the USA of a 1M RAM card for the Z88. At last somebody has done what CCL talked about for so long! A possible 2,097,152 bytes of expansion RAM if you were to have 1M in slots 1 and 2!

Finally, I look forward to meeting many of you at the forthcoming All Formats Computer Fair, where the Club will have a stand. Do come along if you get a chance, and say hello. See the show preview for full details.

Newsline

Just the one this month!

SHARP'S of Mechanicsville (the place that sounds more like a location for Stingray or Thunderbirds!) in Virginia, USA, have dropped a Z88 bombshell by announcing the release of a 1 Megabyte RAM card for the Z88. I recently received a letter from Sharp's telling me that the 1M cards would be available immediately, and pricing details, but little else. Where the cards are being made, I don't know, but certainly CCL do not know anything about this!

For the RAM hungry among you (with thick wallets!), UK pricing is as follows: Normal retail price £349.95, including airmail to Europe. Elsewhere add £3 postage. Sharp's have kindly offered to run a Special Offer for Club Members - see below for details of that, and Sharp's address.

Club Special Offer

Sharp's of Mechanicsville have have kindly offered a **massive £50** saving off the normal price of their 1M RAM card to Club Members. Normal price is £349.95, Special Offer price **until the end of JULY**, just £299.95.

This price includes airmail to Europe. Elsewhere add £3 extra for postage. Sharp's do take Visa and Mastercard.

Send (or phone or fax) your orders to:

Sharp's Box 326 Mechanicsville, VA. 23111, USA Tel: (804) 730-9697 Fax: (804) 746-1978

All Formats Computer Fair

For the first time the Z88 is going to be represented at this show. The Club is having a stand (look for our banner) which will be manned by yours truly and my long-suffering brother, Dave. Ian Braby will be there, with much of the Software Library available in his Z88, and Michael Hey will be there with the CLI Library. Both Ian and Michael will be happy to accept requests for anything they don't have with them on the day. Apart from signing up new Members, I will be selling back numbers of **Z88 EPROM**, Club Binders, and will have a selection of Spares for sale to Members only.

As I write this, two other Z88 companies have definitely signed up to exhibit at the show : Ranger Computers will be there, with their full range of Z88 hardware and software; and S & S Computer Advice will be there with Z88 software and peripherals. Other companies have yet to decide whether to come, but I wouldn't be suprised if one or two more were to attend.

Wordmongers will not be there with their own stand, but S & S will have the full Wordmongers range for sale and demonstration, and Tony Kaye (half of Wordmongers) will be on the S & S stand certainly on the 28th, and hopefully for both days.

So why not come along and say hello, and pick up a bargain or two at the same time? The show is open 10-5 on Saturday 28th April, and 10-4 on Sunday 29th, at the New Horticultural Hall, Westminster.

Helpline

If you have a technical query, write to one of our Helpliners listed below. Please note that you should include a stamped addressed envelope or sufficient return postage for your reply.

CLI Files - Contact Michael Hey by post only at: 18 Woodside Road, Sandiacre, Nottingham. NG10 5GP

Z88 to Amstrad PCW Link - Please write in the first instance to: Mr A West, 16 Southway, Burgess Hill, Sussex. RH15 9ST.

zBASE, CLI and all Wordmongers products except TX and Comms software - Contact Jason Crook (ex of wordmongers) at 4 Salisbury Close, Princes Risborough, Bucks. HP17 0JF. Telephone 08444 7075. I will also write to order in zBASE.

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zBASE - Help on commands and programming. I can accept info/programs on paper. EPROM, zTape cassettes or IBM disk. Contact Robin Jarvis, 27 Gloucester Road, Waterlooville, Hants. PO7 7BJ.

Z88 to Amstrad CPC Link - Contact Duncan W. Kennedy at 32 Otterston Grove, Dalgety Bay, Fife. KY11 5PA.

BASIC Programming - Contact Richard Russell at 59 Campbell Road, Gravesend, Kent. DA11 0JZ.

Interfacing Z88 to various hardware - Mac, BBC, PADs, also UNIX and C experience - Contact J.P. Knight Email JANET on jpknight@uk.ac.lut.sunu, or snail mail during term time to Room 66, Hazlerigg-Rutland Hall, Loughborough University of Technology, Ashby Road, Loughborough, Leics, LE11 3TZ.

PipeDream/Diary/General - Contact Keith Winsor at 13 Swansea Road, Reading, Berks. RG1 8EY. Or Telecom Gold 82:TLR1747.

Z88-PCW Link - Using C-Port program. Please contact David Prestage at 47 Knighton Road, Otford, Sevenoaks, Kent. TN14 5LD.

Anything Educational - Please contact Bob Shore, 8 Anchor Close, Hathern, Leics. LE12 5HP. Telephone 0509 842670.

Can anyone offer Helpline for printer set ups?

Queries, Hints and Tips.

Simon Harrison (1207)

The Cambridge Computer's Parallel Printer Cable would not work with a Toshiba 301 Expresswriter Printer although the Z88 and cable would drive other printers and the Toshiba printer worked with other computers. Neither Cambridge nor Toshiba could offer any advice except that it was not their equipment which was causing the problem.

In desperation, with manuals, multimeter and 'scope, I found that the Acknowledge signal from the Printer was always at zero volts. Neither Toshiba nor Cambridge had designed in a pull-up resistor between the Acknowledge line and +5 volts and thus the signal remained at 0 volts. The easiest place to put the missing resistor is in the Parallel Printer cable on the serial to parallel converter printed circuit board. I used a 4.7 kilohm resistor between pins 10 (Acknowledge) and 18 (+5 volts from the printer). The pin numbers refer to the Centronics plug.

There are convenient plated through holes in the board adjacent to the plug lugs which will take the leads of a low wattage resistor. It would be advisable to sleeve the resistor leads as they pass over other tinned tracks. I have not discussed this modification with either company although I have sent a copy of this letter to them. Thus as yet there is no official blessing nor condemnation but it does work for me!

Incidentally the Toshiba printer is an ideal travelling companion for the Z88; 24 pin dot matrix, built in rechargeable batteries, thermal paper or ribbon, small and lightish, and if you travel consider the carrying case. Using the ribbon it prints view foils directly onto plastic sheet. Very smooth paper gives best results. The built in batteries print about 18 sheets before mains power is required. Ribbons appear difficult to obtain and the paper feed is single sheet by hand or from a roll but there is no roll holder supplied. Good for travelling but not ideal for the office.

(CCL have seen the above fix, and tried it for themselves. As far as they are concerned, this is an approved fix for the problem, and the resistor will eventually be included in future parallel cable production. As far as we are aware, the problem only affects the Toshiba printer, and this is because an equivalent resistor is normally part of the printer circuitry. If anyone has experienced the problem with any other parallel printer, I would very much like to know. - Roy)

Members' Letters

Bruce A. Knox (0874)

Victoria, Australia

Dear Roy,

I read your December editorial with interest, and I am sure you are correct about what CCL ought to do to upgrade the Z88.

There is another aspect of the machine which causes me to make a suggestion which third party software developers might feel able to take up. PipeDream is a very interesting and versatile program, and, despite its idiosyncrasies, I have come to like using it. There is no getting away, however, from that fact that it is a spreadsheet more than it is a word processor. I'm sure there must be many Z88ers who, like me, use the machine for processing text rather than numbers.

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Ranger provide a choice of genuine leather carrying cases for the Z88. The **executive case** provides room for papers and EPROM packs and is attractively styled. Why carry a briefcase when Z88 is all you need? Price £70.00. P & P £4.50.

The **Field case** is designed for outdoor and utility applications, and gives the Z88 substantial protection from the environment. Supplied complete with shoulder straps, the unique arrangement of the case allows Z88 to be used "hands free" while on the move. Price £70.00.
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Z88

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- CNC TX** File capture/transmit facility allows Z88 to transport data for CNC (Computer Numerically Controlled) machine tools. Allows user to imbed header, trailer and end of line strings to match his existing systems. Supplied on EPROM pack at £55.00. P & P £3.50.
- Zback** Add-in utility for PC Link II, allows automatic backup of entire Z88 files to PC. Supplied on 5.25" disk at £15.00. P & P £2.50.

OTHER APPLICATIONS

Ranger specialise in the production of applications for the Z88, many of which are bespoke packages for individual clients. Examples are:

Ranger Highway, a Data capture software package for local authority highway survey, developed in collaboration with Gloucester County Council. The program allows entry of position and defect codes at rates up to 50K bytes per day and writes simultaneously to RAM memory and EPROM backup for security.

LEXLINK allows data transparent file transfer to PC's with the LEX word processor system. The program includes file format conversion for Pipedream to LEX and LEX to Pipedream and has been developed under contract to the UK Ministry of Defence for the Royal Marines.

Please note that all prices exclude VAT. We accept official orders from qualifying UK companies and government organisations. All others, cheque or P.O. with order please. Next day delivery available on all items, subject to stock, £11.00.

Ranger Computers Ltd
The Innovation Centre
Boughton Green Road
Moulton Park
Northampton NN2 7AH

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Telex: 94017588 TBIC G

PipeDream

PipeDream is now available for the IBM PC and compatibles, and the Acorn Archimedes. It has been completely rewritten for these computers and contains many new facilities, whilst retaining complete file and keyboard compatibility with the Z88.

PipeDream on the PC or Archimedes makes the ideal companion for your Z88. With just a connecting lead and the PC LINK II EPROM you can load files directly from the Z88 filing system into PipeDream on the other computer and continue working with no loss of information. Now you can use PipeDream on the computer in your home or office as well as using it in the Z88.

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For more information or to order PipeDream call us on 0954 211472 or write to us at Colton Software, Broadway House, 149-151 St Neots Road, Cambridge CB3 7QJ. Access and VISA telephone orders welcome.

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I wonder therefore, whether there could not be produced, on, say, a 128k EPROM, a word processor which works far more like Wordperfect, or some such program. All eight lines of the Z88 screen should be available. It should be possible to change left and right margins, and line spacing (especially), within documents, to stop and start headers and footers and page numbering at will, to use an ordinary TAB, and to create hanging indents. I would also like to see a facility which enables automatic sequential numbering of, e.g., footnote indices and paragraphs. Probably other things can be thought of as well.

I should be clear that I don't want to dispense with PipeDream: even I have uses for its special character. But, when I deal with text alone, as I mostly do, I'd very much like to be able to switch to to the other sort of word processor, even if it meant having to replace an EPROM in one of the slots from time to time: I wouldn't mind, for instance, alternating Spellmaster with a word processor. Perhaps, however, most Z88ers have a more "numerical" use for their machines?

(What do other members think of PipeDream? Is the combination ideal, or do you think that the program is really a spreadsheet disguised as a word processor? - Roy)

USING THE CLI FROM BASIC

By Michael W. Hey (0703)

Following Geoff Cooper's introduction to using the Z88's Command Line Interpreter I thought it would be of interest to readers to know how to run short CLI files (executable files) from BASIC programs.

There are two reasons for wanting to do this. One is to enable a BASIC program to manipulate the Z88 without resorting to "POKES" (as was usual with the Spectrum or Commodore 64). The second is that running a CLI routine from the Filer can be a bit long-winded and tedious, and the whole aim of CLI routines is to avoid tedium.

BBC BASIC on the Z88 has two commands to allow you to do this. They are OSCLI and *CLI.

So switch on your Z88 and type `[[B`. If you type `**CLI #P` in BASIC, and then press ENTER you will zoom from BASIC to PipeDream.

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Try `*CLI #A#E#D#P#F#I#R#T#C` [ENTER] and you can go for a tour round the Z88.

Clever, eh?

Well, maybe. But how can it be harnessed to do good work? The following program stores ten frequently used CLI routines and executes them at the press of one key. It uses the OSCLI command, which operates like *CLI except that it will accept variables.

FUNKEY.BAS

```
1 DATA "TAB", "#P"
2 DATA "Clear :RAM.-", "#F|ER:RAM.-/*~EN~E|["
3 DATA "Go to Diary", #D|CT
4 DATA "Load file :RAM.-/S.sgn into Pipedream ", "#P|FL:RAM.-/
S.sgn`D`D`DY`EY|FC|DUntitled`E#F|ER:RAM.-/S.sgn`E`E#P"
5 DATA "Pipedream map on/off ", #S`R`R`D`D|J`E#P
6 DATA "Print Today's date", #F|EXdate.cli`E
7 DATA "Letter heading ", "#P|Z 18, Woodside Road, `E Sandiacre, `E
Nottingham. `E NG10 5GP`E|Z|LAR|Q"
8 DATA "Reformat 20 paragraphs ", "#P|R|R|R|R|R|R|R|R|R|R|
R|R|R|R|R|R|R|R|R|R"
9 DATA "Load ANOTHERPROG.BAS", || CHAIN "ANOTHERPROG.BAS"~E
10 DATA " Quit ", "|| VDU1,51,43,67,83`E CLS`E"
20 *NAME function keys
30 REM by Michael W. Hey and Barry Green.
40 REM Please send any suggestions for
50 REM improvements to this program, or contributions to the CLI
60 REM library to 18, Woodside Road, Sandiacre, Nottingham. NG10 5GP
70 VDU1, ASC"6", ASC"#", ASC"1", 32, 32, 126, 40: VDU1, ASC"2",
ASC"I", ASC"1": REM Window 1 fills screen.
80 VDU 1,82,1,84,1,85: PRINT 32 spaces.... FUNCTION KEYS 48
spaces.... ""
90 VDU1,127: @%=&01020009
100 K$ = INKEY$(30): IF K$<>"" PROC_OSCLI
110 FOR I% = 1 TO 9
120 K$ = INKEY$(3): IF K$<>"" PROC_OSCLI
130 RESTORE I%: READ NAME$, A$
140 PRINT CHR$(1);"R";CHR$(1);"T";CHR$(1);"U"; " ";I%;" ";
CHR$(1);CHR$(127);" ";NAME$;SPC(40-LEN(NAME$));
150 IF I%MOD2= 0 THEN PRINT
160 NEXT I%
```

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```
170 RESTORE 10: READ NAME$, A$
180 PRINT CHR$(1);"R";CHR$(1);"T";CHR$(1);"U"; " 0 ";
CHR$(1);CHR$(127); NAME$; SPC(30- LEN(NAME$));
190 PRINT
200 REPEAT
210 K$ =INKEY$(10000)
220 IF K$="" THEN OSCLI("**CLI ^T")
230 PROC_OSCLI
240 UNTIL FALSE
250 :
260 DEF PROC_OSCLI
270 K = VAL(K$): IF K=0 THEN K=10
280 RESTORE K: READ NAME$, A$: command$="*CLI "+A$
290 OSCLI command$: dummy=INKEY(0)
300 ENDPROC
```

The program is organised as follows:-

Lines 1 - 10 are DATA statements which hold the description of each routine and the routine itself. Lines 20 to 60 *NAME the program and give the authors names. Lines 70 to 190 produce the screen display. Lines 200 to 240 test whether any key is pressed and if nothing happens within 100 seconds the program assumes you have lost interest exits to the Index (using *CLI ^T). [This avoids wasting battery power - the Z88's "timeout" is suspended while INKEY is operating.] Finally, PROC_OSCLI does the actual hard work.

This program was written for my own use, but it is easy for you to customise. For example you will want to change line 7 to print your own address.

My main criticism of the Z88 has always been the lack of user definable function keys, and this program goes some way towards rectifying that omission. The program comes with a selection of routines, which illustrate the variety of uses to which the CLI can be put. Try them out - this is the best way to understand how the CLI operates. Then try adapting the routines supplied. This is simply a matter of re-writing the line containing the particular DATA statement.

In an ideal world frequently used routines would be run from PipeDream (for example) by pressing <>1 or <>2, etc. Using this program you press [^B1 or [^B2, etc., which is only one extra key-stroke.

The only guide lines are:- (1) that CLI routines are quite indiscriminate in what they will do - be careful of those which erase files or delete anything.

A routine such as #F|ER:RAM.*//**EN^E will swiftly erase all your files without asking for any confirmation!

(2) DATA statements do not require to be contained in quotes - useful if you want to quote a file name. If you need to use commas in the CLI routine then you must use quotes, so obviously you cannot use commas and quote a file name in the same DATA statement. This is why date.cli cannot be written as a DATA statement. (See below.)

(3) Many of these routines assume that you have only one "Instantiation" of PipeDream present. You may substitute the ^I|CARD|[^R^D^E method used by date.cli. This always selects the most recently suspended PipeDream file (or the Diary or Quickedit, etc.) but it takes longer to run.

Finally here is the listing for "date.cli" by Dr R. Marsh

```
#B||Q^E
CLS^E
x=OPENOUT":RAM.0/now.tmp"^E
PRINT##x,LEFT$(TIME$,LEN(TIME$)-10)
CLOSE##x^E
CLS^ERUN^E
^I|CARD|[^R^D^E|FL:RAM.0/now.tmp
^Dy^D^Dy^E
#F|ER:RAM.0/now.tmp^E^E
^I^E|LAR^E
```

Type this into PipeDream, and save it AS PLAIN TEXT as date.cli or the Function Key program will crash when you press "6"!

May I take this opportunity to thank Barry Green and Richard Marsh for all their help, advice and suggestions. This program really is a team effort.

If you do not wish to type out the program listing, it is available from the CLI Library as X002 and from Ian Braby's Software Library as Z108.

My next project is to re-work this program so that a CLI routine can be allocated to each key. This gives an enormous potential for customising your Z88 and really getting the most out of the CLI.

Any suggestions will be gratefully received.... I look forward to hearing from you!

Wordmongers Ltd.

21 Edison Rd., Rabans Lane, Aylesbury, Bucks. HP19 3TE

Tel.(0296) 437878. Prestel 029634822. Telecom Gold 84:WOT001

Well we're back.

After a break to reconsider life, the Universe and everything we have concluded that the answer is indeed 42. In fact the correct answer of course is 88 but the others haven't caught up with us yet.

In any event, Wordmongers is spread out a bit but is still alive and continues to support the Z88 and software. Indeed, even though Clive is about to take an extended working holiday, along with his Z88 and development kit, the runtime version of zBASE is about to come off the burner. This means that applications written in zBASE can be contained on a 128K ROM with the zBASE program itself to provide a specific application ROM. The realms of publishing Z88 software come within the grasp of every zBASE user.

The costings are not yet complete, but the basic idea is that a program developer pays an initial start up fee for the generating of the required Runtime ROM, then pays a relatively small royalty per ROM blown.

General news.

With Clives current hibernation, the phone number for contacting us is now Tony's number which is 049 481 3591. However, since the Z88 market is not quite large enough to provide a full time income, (well that's what the wife says,) the answer phone will be operational on many days while I am out on my current day to day work. In between I shall be finishing the EAzY money system manual. Therefore, any technical queries which cannot be answered by your supplier would best be sent to me in writing at the address shown.

Please write to
Wordmongers
2 Silverdale Close
Penn
Bucks
HP10 8JP

P.S. Please keep using your Z88's on those trains, boats and waiting rooms. There is no better ad than happy contented users. However, it is important to appear to be enjoying the pastime otherwise the only conclusion from onlookers will be pity for that poor overworked person who even has to keep working on the train home !!

Tony.

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Greetings from Denmark

Member no. 2216, Copenhagen

Dear **Z88 EPROM**,

Greetings from the Danish **Z88** front! The time has now come for us to contribute with some material to the club. First of all: The idea to publish the magazine monthly, is excellent. Communication and news on the **Z88** front has now reached a flexible point.

The only contact we European **Z88** enthusiasts have is through the '**Z88 EPROM**' - therefore we rely on you. However, it is sad that the only communication and news have been narrowed down to a club magazine. We remember the first published **Z88** magazine back in 1987, where it seemed that the machine had a bright future worldwide because of the appearance of the magazine. Anyway, it always gives a good impression - especially for those who might get interested in developing new software (the philosophy of selling a product that will produce enough profit to make the effort worthwhile).

Apart from being **Z88** users we're also the danish **Z88** developers team. We have very often discussed the limitations of the machine - often the strongest opinions coming from our customers in their daily use of the machine.

When **Cambridge Computer** finally printed the 'Developers Notes', somebody had heard our prayers. Because without any real documentation of the operating system really nobody would ever be able to produce any professional applications. The **Z88** needs the software backup.

The number one wish was a better protection of data stored inside the machine and secondly some more inbuilt help text information of the available commands in the applications.

From the frequent demands we are currently developing the data protection system by using a password combined with the possibility to encode files (also by using a individual password). We are also working on a Danish help text facility that contains help information of all available commands including related topics. They will be made in two versions; a comprehensive one stored on a **128K ROM** card and a cut-down version on **32K ROM** card. - If there is any interest we are prepared to develop English versions to club members for a reasonably small fee. However, it is necessary to include the appropriate EPROM and return postage.

Information of ordering and prices will be put in a future issue of **Z88 EPROM** if there's anybody around that wants our work.

Further more, we have during the past two years collected our hottest wishes for a new **Z88**. The suggestions have been sent to **Cambridge Computer**. But this is not where it really should end. Why not print it in the magazine and start collecting of ideas from club members, by starting a debate through the members's letters?

In the end the Club would have a substantial material that has a powerful backup from more than 3000 members!

Surely that must impress **Cambridge Computer** receiving a letter like that from the club. Because no one is really better to criticise but the user himself, having used the machine after a substantial period of time. Our suggestions have been enclosed in this envelope.

Our hope is that a new **Z88** will be born including all the present benefits plus a great deal more - but that question can only be answered by **Cambridge Computer** themselves.

Regarding the improvements area:

We believe that there is a great deal of differences between the various local versions of the **Z88** ROM, which include extra facilities that British users don't have benefits of (our latest information of the British version is 3.00). Our Danish version (V3.21!) includes correct sorting in **PipeDream**, that is not handled correct in the Swedish version! Please see below for further details of the Danish version.

We would like to have information of all current foreign **Z88** operating system versions, with the following list of details:

1. Version number of OZ.
2. Allowed ISO characters in filenames (displayed by the **Filer**)
3. Local language names for dates (in **Diary**, **PipeDream**, **Clock**)
4. Correct sorting of ISO characters in **PipeDream**.
5. Any found bugs in applications and 'OZ'.
6. Compatibility with Richard Russells **BASIC Patch** ...

Such a list would also help software developers who probably are not aware of all the different ROM versions. By using this method, compatibility problems with third party software could be avoided.

E.g. we've had serious problems with the earlier versions of **SPELLMASTER** when using ISO characters in **QuickEdit**, that sometimes crashed

the machine. However, this has been fixed from V1.03 upwards. - The problem could have been avoided if they from the start had known about the specific versions available (e.g. a quick phone call to CC. for a copy of a ROM version for testing purposes). Also, it would be a good idea to make a check list of the current applications compatibility with the different versions, including the version numbers of the application numbers.

In the Danish version V3.21 have the following features:

- a. Local language names of dates, including a '.' instead of 'th'. after a date name.
- b. Correct sorting of Danish (ISO) letters in **PipeDream**.
- c. The filing system allows inclusion of Danish letters in filenames, catalogue names. NB: We have incompatibility problems with the supplied version of Russell's **BBC BASIC** Patch:
 - After installing the patch (by using the CHAIN command), every action results in the error message 'NO ROOM'.

Apparently, the only version available from the Club's software library is the one including the screen dump facility. We have reason to believe that the original version from Russell could be compatible with V3.21. Do other 'foreigners' have similar problems? Also, we would like to have some more information of how to install new **BBC BASIC** commands. The ideal solution would be to get Richard Russell to publish the source code WITH COMMENTS in either the magazine or to the Software Library.

Many thought in the beginning that the **Z88** only would be a toy, nobody really could use professionally, particularly because of the rubber keyboard. Books and programs have now been developed, especially the important disc drive interface, giving the **Z88** a more professional appearance than first showed on the **PCW** in September 1987. The future is better than ever for a new improved **Z88**!

By the way, while we were hacking around in the **Z88** ROM, we just stumbled across a hidden command in **PipeDream**: It is a name of a VERY poisonous snake, beginning with the letter C. Find out - but beware, it could be dangerous!!!

Greetings from the Z88 Developers Team, Denmark:
Gunther Strube (InterLogic)
Jesper Z. Madsen (Zuschlag Technology)
Niels H. Mikkelsen (DanSoft)

(What follows is a (long) article with very detailed suggestions for improving the present Z88. Apologies for printing the full article in this one issue, but I feel that the document is a good starting point for a debate about an improved Z88, something which interests us all. Read the following, and let other members know what you think a new Z88 should include. I await your letters with interest...-Roy)

Suggestions for improving the Z88

- Z88 system -

1. Help text facility should be a **RAM** based file that simply could be delivered as a file on **EPROM** to be loaded into **RAM**. The **Panel** will then have a flag (and a filename), which will be set to indicate that a help text file is present.

It should be possible to have more than one screen attached to each command/function by implementing a page-wait facility.

2. Full implementation of **ISO LATIN I** character table. Argument: One unique **ROM** for all European **Z88**'s. Selection of language in **Panel**, e.g.:

Current language: Danish

- by selecting `J' the user scans through all available languages . When selecting a specific language, the following actions should take place:

- * Installing of local language names in dates (month & day names).
- * Installing of local language keyboard layout.
- * Installing of translation tables in serial port filter.

3. RAM based applications.

The current method of installing third party software by EPROM has two major disadvantages. Firstly, because of increased software prices due to the price of standard EPROM's. Secondly, the extra applications that are possible to be installed at one time is unfortunately limited by the number of free slots. This arises the need for 'SuperChips' that comprises several applications in one EPROM, a design that is too static.

This system has definitely not been encouraging development of software for the **Z88**. - What is needed is a dynamic approach. E.g. program files that can be loaded into an 'empty' standard resident application, created from **INDEX**. The filename will be sufficient for identification in the 'YOUR REF' column.

The application will automatically allocate sufficient memory for the program file. As PipeDream, several incarnations can be created to allow several programs to run simultaneously. However, for compatibility's sake the feature will still have to be present for existing external applications.

4. Password protection of the Z88:

E.g. when switching the machine on, one is presented with a menu that requires a password to be entered that will allow the user to enter the **Z88** system. An external **SOFT RESET** should not be possible in this state. Also, a facility to encode files by a specific password should be implemented.

5. Correction of currently known bugs in **OZ** and applications:

PipeDream, PrinterEd, Filer, Imp/Export etc.

Please refer to '**Z88 EPROM**' for information. Also, see **Appendix A** for further details ...

6. Serial port translation table:

Installation of a translation table as a standard filter when communicating through the serial port (:COM.0). The table should contain the complete **ISO LATIN I** versus the appropriate IBM table (Selection of a language in **Panel** as indicated above will install the appropriate table, i.e. table 865 for Denmark and Norway). A facility to choose the Macintosh table and the ASCII tables must be implemented as well.

Functionality: Automatic conversion of byte sent/ received through the serial port.

The filter must work both ways:

Z88 => external terminal

Z88 <= external terminal

For optimum transmission speed, the conversion shall only be a 1 to 1 byte translation.

With such an implementation, there will no longer be any fuss about external conversion of characters after an export - the conversion will be automatic during transfer.

The filter can be controlled by the user in setting flags in the **Panel** to indicate whether the filter is active or not ... (e.g. to switch off the filter when sending binary data)

Also, it should be possible to define a user translation table, including the facility to load and save a translation table. This could be implemented by a simple **PipeDream** document with two columns defining the two tables. The translation tables in the **Printer Editor** would still be present - because they only work when printing (by using the **:PRT.0** device).

The above suggestion will make the **ESC B** protocol obsolete in the **Imp/Export** popdown.

7. Hardware:

- a. 12 line display (remove main decal) in new film LCD technology with black text on white background.
- b. More internal RAM (minimum 256K in **RAM.0**)
- c. Increased angle of screen for better viewing.
- d. The power supply plug socket should be placed at the back edge instead of the left
- e. Automatic recharging of rechargeable batteries through power supply socket.
- f. Better finishing: Better quality plastic (less brittle). More rigid rubber keys. Rubber legs that stick to the machine forever.

- Diary -

1. Automatic updating of specified filename when using wildcards. Same principle as in **PipeDream**.
2. Possibility to have several incarnations of a **Diary** application (same principle as **PipeDream**). This is useful when you want to separate your daily notes in two diaries, e.g. one for business and one for private information.

- PipeDream -

1. Mail merge (as implemented in PC **PipeDream**).
2. 'Already Exists' prompt, when saving documents and the file already exists in the filing system.
3. Implementations of Financial functions (see PC **PipeDream**).
4. **Goto** Page nr. , **Next** page, **Previous** page.
5. **Goto** Multi-file document nr. (in list file).
6. Marking of blocks on specific letter position, not only line-based
(See **QuickEdit** from **Computer Concepts's** Spelling checker editor).

7. Spelling checking, as in PC **PipeDream**, version 2.2 .
8. Define key facility (see PC **PipeDream** for further details).
9. More Highlights for extended formatting, e.g. 16 highlights.
10. Faster algorithm for loading Multi File documents, e.g. going from top document to bottom document.
11. Faster sorting algorithm (please see PC **PipeDream**)
12. Implementation of complete **ISO LATIN I** characters in sorting algorithm.
13. Multiple sorting-keys (see PC **PipeDream**).
14. A **THINKZ** like structure of creating text-entries. Please evaluate **Wordmongers's** program, **THINKZ**, to get a more detailed picture of requirements. Also, see the IBM PC Program **SPRINT** from Borland for further ideas. An easy alternative would be to include the original program, in a bug free version, from **Wordmongers**.
15. Word deletion, also in leftward direction (opposite of original **~T** command)
16. American notation on numbers in **PipeDream** slots, e.g. :
1.670.500.999,456
17. Inclusion of filename extension in **INDEX** 'Your Ref.'
18. Index Facility.

In **PipeDream** we have often needed an index facility when developing documentation (especially the **Z88** manual). This is our idea on how it could be implemented:

By using a special designed symbol, the user should be able to mark a word or sentence using the same method as highlighting text in the document. The Index symbol should also be an 'invisible character', (e.g. an inverted 'I') just as the highlights are treated in the document (e.g. doesn't affect justification of the text on the line).

Index generation on Multi File Documents should also be possible.

When finished writing the document, a command should be implemented to generate a list of all found indexes. The list contains two columns:

first column: second column:
(marked) text page number ...

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The list could either be merged into the document (e.g. at cursor position) or sent to a file. If required, the list could then later be sorted by **PipeDream** itself.

It is our opinion that it will be fairly easy to implement because of the already implemented search algorithms.

- Calculator -

The current calculator has no real usage (maybe for old ladies!)

Instead a real scientific calculator should be implemented. This also increases the 'usage value' for students. In fact, it is too troublesome to enter complex scientific expressions in **PipeDream**. The way to enter expressions is not by using the current implementation seen in the Calculator ('Pop version'), but a similar implementation to entering/editing/executing expressions as seen on the **PSION ORGANISER**. However, it doesn't necessarily have to be a **HP-28** pocket calculator! Also, it is necessary to understand the students point of view, especially when aiming at an educational market.

- Filer -

1st priority: Extended **EPROM** catalogue: All files should be displayed with file length, including old version of the saved file under the same name. Also, information of remaining bytes left on **EPROM**.

Fetching of files from **EPROM** should also include versions of previously saved files under the same name.

When cataloguing **RAM** files, information of free memory on the current **RAM** card should be displayed.

2nd priority: The file creation date should not be updated when updating the file itself. It has at the moment no relevance at all.

The **TREE COPY** command: An additional implementation: On activation, the command should check if specific files has been marked. If so, only the marked files will be copied to the destination directory.

VIEW file command: This new command is often needed.

The foreign letters in filenames: In the Danish version (**DK3.21**) an inconsistency have been found in filenames including **ISO** characters that results in the **FILER** not being able to automatically equalize between upper and lower case. Please refer to **Appendix A** for further details.

- **CLI** -

Inclusion of **GOTO** <label> and conditions, giving the interface the real programming power. Command to terminate **CLI** from within **CLI**.

- **PrinterED** -

Extending the highlight table to 16 parameters. For further information, please refer to **PipeDream** section.

- **BBC BASIC** -

The already known **BASIC Patch** from Richard Russell, distributed through the **Z88 Users' Club** must be included as a standard in the **BBC BASIC** application. Many users have cried for a real **BASIC** edit line facility rather than the supplied **BBC BASIC** procedure (using the **CLI**) from **C.C.** The possible expansions for **BASIC** are infinite. However, a multiple-lined **IF - THEN - ELSE - ENDIF** structure is the most needed facility. Please refer to the **Archimedes BBC BASIC** version.

- **Terminal Software** -

The **VT-52** terminal is an old standard which many professional users regard as out-of-date. The present de-facto standards are **VT-100** and **Videotex (PRESTEL)**. An implementation of both terminal modes would be appropriate.

An easy alternative would be to include the well known modem package from **Wordmongers**. When calling **IBM PC** based **BBS's** the terminal software must be able to interpret or suppress received **ANSI** codes. The **Wordmongers** modem package does not have this facility.

- **Database software** -

PipeDream's ability to do database functions is rather limited. A powerful database package would be interesting! An affordable alternative would be to include an improved version of **ZBASE** by **Wordmongers**:

Trapping of ESC key.

Multiple Index keys.

Wildcard search facilities.

Faster execution of Batch files.

- **PC Link II** -

Inclusion of the **Link** utility. However, it is too slow for professional usage. Suggestions for improvements, extending the **Link** protocol:

a. Wildcard/group selection of files to be received/sent.

b. Faster transmission of data:

b1. The 'acknowledge-byte' principle must be removed on transmission, giving twice the speed.

b2. File-length (source) and information of free memory on destination should be checked before file transmission. This eliminates the need for the acknowledge byte algorithm.

- **Developers Package** - Not to be installed as a standard for the Z88, but a software package that **CC** will distribute on an application **ROM**, containing:

1. Z80 Macro-Assembler, parsing ASCII mnemonic files.

2. Monitor, Disassembler for debugging.

3. Algorithm to produce the application **ROM** from an assembled file.

- The **BBC BASIC** is too limited for professional software development.

- **Appendix A** -

Error in Z88 Imp/Export popdown, V3.21 (Denmark) Danish letters (in general terms foreign) are accepted in filenames by the filing system (**FILER**). The following have been observed when using the **Imp/Export** popdown transmitting files, containing foreign letters in the filenames:

1. The system accepts filenames with foreign letters when you **Send** files to the serial port. The foreign letters in the filename will automatically be converted to the sequence **ESC B hexdigit1 hexdigit2**.

2. **THE BUG:** Files previously sent to the outer world with filenames containing foreign letters and later retransmitted to **Z88** will **NOT** be received: E.g. The user sends a file, **:RAM.1/øllebrød**, to the **Z88** serial port. As seen in the above example, the first and seventh letter in the filename is the foreign letter **ø** (ASCII 216).

The filename will be converted to the sequence: **ESC,N,ESC,B,D,8,1,1,e,b,r,ESC,B,D,8,d,ESC,F..** The above sequence will **NOT** be accepted as a legal filename when trying to receive the file, and instead the following error message will be reported: **'Poor data received'**

- **Suggestion to remove the bug:** A further implementation, accepting filenames with foreign letters when receiving a file from the serial port. In our opinion this is the best solution to the problem, giving both the possibility to use the foreign letters in the **FILER** and in communication with the outside world.

- **The foreign letters in filenames:** In the Danish version (**DK3.21**) it is allowed to include **ISO** characters in filenames. However, the **Filer** distinguishes between upper and lower case **ISO** characters.

This generates the problem of having visually identical filenames with different casing but internally seen as two different files, e.g. the filename 'Årsberetning' is not equal to 'årsberetning'.

- **ISO** characters should have the same treatment as ordinary **ASCII** characters. The **ASCII** values for **ISO** characters use also the standard gap between upper and lower case characters, exactly 32. The same algorithm for standard characters in filenames could also be applied to the **ISO** characters.

(So there you have it. Obviously our Danish friends have put an awful lot of effort into this article. Please think about what it says, and carefully consider what you would like to see in a 'new, improved' Z88. Obviously, I don't intend to devote this much space to the subject in a future issue, but any short, specific points would be very welcome. - Roy)

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Software Review - Vision 100 VT100/220 Terminal Emulator

By Jon Calvert

VISION 100 is a terminal emulator for the Z88 based on the Digital Equipment Corporation (DEC) VT100 video terminal standard and is written entirely in Z80 assembler. The software is produced by Ranger Computers Ltd of Northampton, and is currently supplied on a 32k EPROM accompanied by an A4 sized 41 page manual. Ranger combine the Z88 and VISION as a package, aimed mainly at the corporate market where a one piece solution is required, but VISION can be supplied separately for existing Z88 owners.

The manual is clearly printed and illustrates both the commands and Escape codes expected by VISION to perform its tasks. A usefull section on cable wiring is included to help eliminate potential problems in connecting the Z88 to a host computer system either directly or via a modem - a point which some terminal emulator manuals fail to help with at all!

Plugging software into the Z88 always fills me with intrepidation. Will it prove to be a package that needs a hard reset to get over the odd bug? Brrr! always makes me shudder, and so a full backup of the Z88 is always performed before doing it. With VISION though there was no need to worry. The package performed faultlessly.

Selecting VISION from the Index or [ZV, brings up the VISION intro screen, or your suspended session, whichever is appropriate. The left side of the display indicates the current communication settings i.e. the transmit, receive speed and number of bits per character. The right side of the display holds the 80 by 24 line map display and some other informational displays such as indicators for CLI, CTL, and APPLICATION modes. The centre portion of the display is devoted to an 80 by 8 line window onto the full 80 by 24 line screen display which can be scrolled up and down using the SHIFT arrow or Diamond arrow keys as in PipeDream.

The menu key provides normal Z88 style menus for easy access to features such as the VISION file transfer options or the terminal SETUP screens, but pressing the [key will really impress you. Instead of popping up a square symbol on the right side of the screen, the whole screen is cleared and is replaced by a visual display of the Z88 keyboard and its mapping to the VT100/220 keyboard.

The next key that you press (providing it is one on the display), is translated by VISION into its corresponding VT100/220 key sequence. This means that [J]5 will be translated by VISION into the BREAK key sequence, or [J]Y will generate the DO sequence on the VT220 keyboard. It might sound odd reading this, but using it is absolutely incredible. It's fast, slick and other software developers should start queuing up now to find out how they do it!

Using the square key in this manner does mean it is slightly more difficult to get back to PIPEDREAM or pop-ups (you have to via the INDEX key), but if you consider that the Z88 has a distinct lack of extra keys to facilitate VT220 emulation, then this method of operation is a godsend.

The other major extra keys on the VT series terminals are the PF keys 1 through 4 and the numeric or application keypad. Here the VISION invocation is more direct. Diamond 1 to 4 emulates the appropriate PF key, and pressing Diamond ENTER raises the APPLICATION symbol at the right side of the display and swaps the number keys 0 to 9 and the ENTER key to application mode.

Anyway, having got through the descriptions of keyboard manipulation, how do you map a 24 line screen onto an 8 line display? The answer is very effectively. Two modes of operation have been allowed. The first mode and probably the most common, is for the display to reflect the current cursor position. The display shows the third of the screen containing the cursor at all times. The alternative is that a particular third of the screen is constantly displayed. This mode is very useful for things such as the 2020 spreadsheet, where you want the display to remain on the active slot, and not skip back to the command line during things such as formatting operations. The screen mode operation can be changed at any time though by summoning the SETUP Z screen and amending the Move Window option.

VISION has another nice feature in SETUPS. If you amend any of the defaults from the SETUP menus A,B OR Z, VISION retains the amendments in file in :RAM.0 called VISION2.CNF. Even if you then remove VISION from the machine, the file remains and the next time you replace and load VISION, your defaults are automatically loaded and set.

Connecting the Z88 to a VAX and running some standard software to evaluate the package was very rewarding. I was unsure how useful an 8 line display would be with facilities such as the VAX operating system MONITOR display which illustrates system usage, but VISION was remarkably good.

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Locking the screen into one section allowed a particular panel to be displayed, and the line graphic character animations used in the display showed the performance bar charts as well as any VT series terminal. Terminal speeds of 9600 Baud proved to be no problem in keeping the display updated with characters or attributes such as reverse video.

Function keys and Application keypad conversions work exactly as they should, and control keys can easily be sent by using Diamond followed by the key required (a CTL symbol pops up at the right hand side of the screen when the Diamond is pressed), but for those used to using a VT terminal, it is just like using the CTRL key.

Using the SET TERMINAL/INQUIRE command under VAX/VMS even works, allowing the VAX to detect what mode you have set VISION to, VT100, VT102 and 7 or 8 bit VT220.

So who needs a Z88 with a terminal emulator? Well I do for one! I spend a lot of my time using VAXes, and anyone with a mobile requirement for uploading and downloading information between the Z88 and other machines that support ANSI or VT100 terminals will benefit from using VISION 100 (no more .J editing of text files using the low-tech VT52 emulator built into the Z88). Other professionals that spring to mind are Journalists, System Managers with multiple sites, Sales Representatives and even students.

The total cost of the Z88 and VISION 100 is less than £400 at current prices, and for a portable terminal with local processing power, that represents excellent value for money.

Ranger are currently in the process of upgrading VISION to include features such as the KERMIT file transfer protocol and some modifications to the way that the APPLICATION keypad mode is used. This will mean a move to a 128k EPROM as opposed to the 32k that the current version is squeezed into, and unfortunately a corresponding rise in price from its current £175. There may be some other features included, but evidently we will have to wait and see what the future brings.

One other thing that Ranger do have is a split comms cable. If you use the Z88 in the office and also have a VT type terminal on your desk, the split cable allows you to use the Z88 as your keyboard/Z88 but with the advantage that the terminal shows the normal screen output from the host machine. Really neat! So far they have used the cable for development purposes, but they may be persuaded to make one for you...

In conclusion, the VISION software allows the Z88 to be attached to almost any system and send and receive files easily. It performs very well as a good VT series emulator, and though the price in Z88 software terms may make you wince personally, for anyone who needs VT emulation with portability it represents excellent value for money.

The VISION 100 Terminal Emulator is priced at £175 + £3.50 postage. It is available from:

Ranger Computers Ltd, The Innovation Centre, Boughton Green Road, Moulton Park, Northampton. NN2 7AH. Tel: 0604 791064.

CLI Library 'Spot'

HELLO FOLKS! There are two items of interest this month. Firstly two routines by Ted Ovenden:-

X012 Reboot which updates the Panel after a re-set, to restore your favourite settings.

X013 DW which changes the Panel baud rate and loads a new Printer driver. This routine is useful for those of you whose printers take input at different baud rates. It avoids the need to remember to change both the PrinterEd and the Panel; this routine makes both changes for you.

Secondly: this month's bug.

Would those of you who have requested X005 please load X005A into PipeDream and check that line 5 reads

```
#P|Z|^D|Y|Y|Y|Z|BRP^B/^D^D^D^D^N^DY^E
```

There should be a ^B between |BRP and / otherwise your directory names can get all muddled up. Remember to load and save this file AS PLAIN TEXT when altering it.

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THE Z88 - ST LINK

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- ARCHIVES Z88 FILES
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- CONVERTS Z88 FILES FOR USE WITH 'SUPERBASE'
- CONVERTS Z88 SERIAL OUTPUT FOR A PARALLEL PRINTER
- MAKES FULL USE OF 'GEM' FOR SIMPLE OPERATION

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THE Z88 - AMIGA LINK

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